

To summarize the structure of this genus as shown by my specimens, each valve has a single large cardinal tooth, the cardinal tooth of the right valve being anterior to that of the left valve when the two valves were joined. The left valve, consequently, has a deep pit or socket on the anterior side of the tooth, while the right valve has a socket on the posterior side of the tooth. In addition the anterior part of the cardinal margin in the left valve forms a linear tooth that is received by a groove in the thickened anterior margin of the right valve. On the other hand, the posterior part of the cardinal margin in the right valve forms a linear tooth that rests in a groove in the thick posterior margin of the left valve corresponding to it. Between the cardinal tooth and the posterior tooth in each valve is an area of ligamental attachment partly inclosed by a leaflike plate which is continuous below with the main hinge structure. The sharply defined areas on the exterior of the shell are lunule and escutcheon, although the posterior one may have housed a ligament as Hall originally thought.

The muscular imprints consist of a rather large, deep, and sharply defined scar at the anterior extremity of the shell, and another somewhat larger, but less deep and less sharply defined, opposite to it on the posterior superior angle. The pallial line connecting these imprints is indistinct in all the specimens seen, but it appears to be without a sinus, as indeed, has generally been believed. A short distance back of the upper margin of the anterior scar and excavated in the underside of the hinge plate is a small but rather deep pedal scar.

BOTANY.—*New passionflowers from South America and Mexico.*¹
ELLSWORTH P. KILLIP, U. S. National Museum.

In preparing a revision of American Passifloraceae the writer has had the opportunity of examining the collections of several herbaria in the United States and Europe. As this revision will not be ready for publication for some time the new species recently noted are here described in advance. Photographs of the type specimens in other herbaria are deposited in the United States National Herbarium.

Passiflora stellata Moritz, sp. nov.

Stem slender, subtriangular, striate, finely pilosulous; stipules setaceous, 5 mm. long; petioles up to 3 cm. long, biglandular at base of blade, the glands 0.5 mm. long; leaves 4 to 6.5 cm. long, 4 to 8 cm. wide, 3-lobed about

¹ Published by permission of the Acting Secretary of the Smithsonian Institution. Received August 13, 1927.

one-third their length (lobes broadly triangular or triangular-ovate, 2 to 3 cm. wide, acute or obtusish), subtruncate at base, 5-nerved, entire at margin, sparsely and minutely pubescent above, more densely pubescent beneath, membranous; peduncles about 2.5 cm. long; bracts setaceous, scattered; flowers white or greenish (?); sepals oblong, about 2 cm. long, hyaline at margin, cucullate at apex, keeled, the keel terminating in a horn 3 mm. long; petals linear, less than 1 cm. long, obtuse, white, membranous; corona filaments in a single series, liguliform, about 7 mm. long; operculum membranous, 7 mm. high, slightly plicate, erose at margin, white; gynophore slender, striate, slightly swollen at base; stamens very slender, 1 cm. long; ovary ellipsoidal, 6-grooved, glabrous.

Type in the herbarium of the Muséum d'Histoire Naturelle, Paris, collected "in reg. temp. et subfrig.," New Grenada (Venezuela?), in 1852, by M. Moritz (no. 1961). Duplicate in the British Museum.

This is quite distinct from any known species. The shape of the leaves and the presence of glands at the apex of the petioles indicate a relationship with *P. warmingii*. The stipules, however, are setaceous, not foliaceous; the faucial corona consists of a single, not a double, series of filaments; the gynophore is more slender; and the ovary ellipsoidal, not ovoid.

Passiflora quadriflora Killip, sp. nov.

Plant glabrous throughout; stem angular, strongly compressed, striate, scabrous; stipules setaceous, about 1 cm. long; petioles 7 to 9 mm. long, tortuous, glandless; leaves narrowly lanceolate, 5 to 8 cm. long, 1.5 to 2 cm. wide, unlobed, acute, mucronulate, rounded or subcuneate at base, entire, 3-nerved (nerves nearly parallel, conspicuous), reticulate-veined, ocellate between lateral nerves and midnerve, coriaceous or subcoriaceous; peduncles in pairs, 2-flowered, the main portion and the branches nearly equal, each about 1 cm. long; bracts setaceous, 3 to 5 cm. long, scattered; flowers rotate-campanulate, about 5 cm. wide, greenish (?); sepals lanceolate, about 2 cm. long, 0.5 cm. wide at base, acute; petals linear-lanceolate, 5 to 6 mm. long, 1 to 1.2 mm. wide, obtuse, white, membranous; corona filaments in two series, the outer filiform, 5 to 6 mm. long, the inner series capillary, 2 mm. long; operculum membranous, 2 mm. long, slightly plicate, finely fimbriate one-third its length; nectary ring annular; limen shallowly saucer-shaped, 0.5 mm. high; ovary globose; styles very slender, about 8 mm. long.

Type in the herbarium in the Field Museum of Natural History, no. 536227, collected at Villcabamba, hacienda on the Río Chinchao, Peru, altitude about 1900 meters, July 17 to 25, 1923, by J. F. Macbride (no. 5189). A specimen of this collection is also in the U. S. National Herbarium.

This species presents several unusual characters. The peduncles are 2-flowered, but they do not terminate in a tendril as in the case of *P. cirrhiflora*, *P. tryphostemmatoides*, and *P. gracillima*. The leaves are unlobed, an unusual form in the subgenus *Plectostemma*, to which the species clearly belongs. The operculum, in addition, is more conspicuously fimbriate than in most species of this subgenus.

Passiflora goniosperma Killip, sp. nov.

Plant densely pilose-hirsutulous throughout, the hairs of the stem often recurved or retrorse; stem subtriangular, tortuous; stipules linear-lanceolate, 4 to 6 mm. long, up to 1 mm. wide, aristate, subfalcate; petioles 5 mm. long

or less, glandless; leaves oblong in general outline, 2-lobed one-quarter to one-third their length, 1.5 to 4.5 cm. along mid-nerve, 2 to 6 cm. along lateral nerves, 2 to 4 cm. between tips of lobes (lobes obtuse, mucronulate, the sinus truncate or slightly rounded, occasionally emarginate, often mucronulate at end of midnerve), scaberulous and densely hirsute above with subappressed white hairs which are enlarged at base, usually pilose-hirsute and paler beneath; flowers in pairs on short (2 cm.), axillary, leafy branches, rarely on the main stem; bracts none; sepals lanceolate, about 7 mm. long, 2 mm. wide, acute, hirsutulous without; petals narrowly linear, 3 to 4 mm. long, 1 mm. wide; corona filaments in a single series, liguliform, 2 mm. long; operculum membranous, closely plicate, white; limen annular; ovary ovoid, longitudinally 6-grooved, white-puberulent; fruit asymmetrically ellipsoidal, up to 4 cm. long and about 1 cm. wide, sharply 6-angled, long-tapering at ends; seeds obovate, 3 to 4 mm. long, 1.5 to 2 mm. wide, blackish, lustrous, narrowed at both ends, the axis more or less curved, the lateral margins thin-winged, the central portion of each face elevated, forming a sharp-toothed ridge (hence the seed quadrangular in cross-section).

Type in the Universitetets Botaniske Museum, Copenhagen, collected at Niña de Dolores, (Oaxaca?), Mexico, August, 1842, by Frederik Liebmann (no. 4076; *Passiflora* no. 29).

OAXACA: Santa Gertrudis, *Liebmann* 4075, *Passiflora* no. 30 (Copenhagen). Sierra de Ixthlán, *Conzatti* in 1913 (U. S. N. M., Gray Herbarium), in 1918 (Missouri Botanical Garden).

The seeds of *P. goniosperma* differ markedly from those of other American species of *Passiflora*. Each of the two faces has the appearance of being compressed laterally to form a narrow longitudinal ridge; the transverse ridges, normally extending from margin to margin in the species of the subgenus *Plectostemma* with sulcate seeds, are reduced to a row of teeth along this longitudinal ridge. The ellipsoidal, 6-angled fruit, the absence of bracts, and the general aspect of the plant, however, show a rather close relationship with *P. capsularis*, the species to which the type specimen of *P. goniosperma* was referred by Masters. In addition to the seed characters, other marks which distinguish it from *P. capsularis* are the smaller leaves, with rounded subparallel lobes (lobes usually acute, divergent in *P. capsularis*).

Passiflora conzattiana Killip, sp. nov.

Stem slender, terete, pilosulous, becoming glabrate, reddish; stipules setaceous, about 4 mm. long; petioles densely pilosulous, 0.8 to 2 cm. long, glandless; leaves 2 to 5 cm. long, 3 to 8 cm. broad, 2-lobed (lobes acute, rarely obtusish, widely divergent, the sinus shallowly semilunate or the upper margin nearly truncate), entire, cordate at base, 3-nerved (nerves often terminating in a short cusp), thin, sparingly setose above, densely pubescent beneath; peduncles solitary or in pairs, slender, up to 2 cm. long; bracts none; flowers small, 1 to 2 cm. wide; sepals linear-lanceolate, 3-nerved, sparingly pilose without, glabrous within, 8 to 10 mm. long, 2 mm. broad, petals linear-lanceolate, 4 to 5 mm. long, 1.5 mm. broad; corona filaments in a single series, relatively few, liguliform, 3 to 4 mm. long, 0.4 mm. broad, deep red; operculum membranous, erect, closely plicate, red below, pale yellow or white above, the margin minutely fimbriate; limen annular; gynophore glabrous, 4 to 5 mm. long; anthers oblong, 3 mm. long,

1 mm. broad; ovary narrowly ovoid, densely puberulent or tomentulose; styles clavate, 3 mm. long; stigma globose, 0.8 mm. in diameter; fruit narrowly ellipsoidal, about 5 cm. long (including the long slender stipe and the caudate tip), 1 cm. wide, 6-angled, finely pubescent, at length glabrous; seeds broadly obcordate or suborbicular, 1.5 to 2 mm. long and wide, transversely 5 or 6-grooved, the ridges smooth.

Type in the U. S. National Herbarium, no. 1,206,806, collected at Mirador, Veracruz, Mexico, June, 1921, by C. A. Purpus (no. 8804).

SAN LUIS POTOSÍ: Las Canoas, *Pringle* 3638 (Gray Herbarium).

VERACRUZ: Near Jalapa, *Rose & Hough* 4260 (U. S. N. M.), 4938 (U. S. N. M.), 7840 (U. S. N. M.). Totula, *Liebmann* 4154, *Passiflora* 28 (Copenhagen).

The principal points of difference between this species and *P. capsularis* and *P. rubra* are much smaller flowers, smaller leaves nearly truncate at the upper margin, nearly orbicular, rather than oblong, seeds. Several of the specimens here cited were distributed as *P. rubra*, a species frequent in the West Indies and South America but apparently not found in Mexico.

Passiflora urbaniana Killip, sp. nov.

Plant scandent, with slender tendrils; stem terete, softly ferruginous-villosulous or almost tomentose toward end; stipules minute, semiannular about stem, barely 0.5 mm. long; petioles 5 to 10 mm. long, slightly dilated at base, glandless, densely ferruginous-tomentose; leaves oblong or lance-oblong, 4.5 to 8 cm. long, 2 to 4 cm. wide, obtuse or rounded at apex, entire or remotely undulate-serrulate, 3- (or 5-)nerved (nerves impressed at base, the lateral not reaching to middle of margin, the secondary nerves 5 to 7 on each side), subcoriaceous, minutely hispidulous above, densely and softly ferruginous-tomentose beneath; peduncles 5 to 8 cm. long, pilosulous; bracts 2 to 2.5 cm. long, 1 to 1.5 cm. wide, viscous, deeply bipinnatisect, the segments gland-tipped; flowers about 5 cm. wide, the tube short-campanulate, hirsutulous without; sepals oblong, about 2 cm. long, 0.6 cm. wide, obtuse, greenish and hirsutulous without, 3-nerved, the middle nerve becoming carinate toward apex, and terminating in a short horn; petals linear, slightly shorter than the sepals, lavender; corona filaments in 5 series, those of the two outer filiform, about 1.3 cm. long, violet at base, radiate, those of the inner series almost capillary, about 2 mm. long, erect; operculum membranous, erect, about 1 mm. high, non-plicate, minutely denticulate; limen similar to operculum, about 2 mm. high; ovary subglobose, densely white-villous-tomentose.

Type in the U. S. National Herbarium, no. 529493, collected at Sanitago de las Vegas, Province of Havana, Cuba, where cultivated, May, 1906. (Herbarium de Cuba, Estación Central Agronómica no. 2588.) Said to have been grown from seeds from Belize, British Honduras. Specimens of this collection have been seen in the New York Botanical Garden, the Gray Herbarium, and the Berlin Botanical Garden.

This is a most unusual species, and it is unfortunate that its precise origin is uncertain. The bracts and flower structure show that it belongs to the subgenus *Dysosmia*, of which the only other species with entire oblong leaves is the Brazilian *P. clathrata*. That is an erect, suffrutescent plant with very short peduncles and a wholly different indument. The leaves

are very similar in shape and size to those of *P. multiflora*, a native of the West Indies, belonging to a wholly different group of *Passiflora*. There is a bare possibility that this may be a hybrid of *P. multiflora* and some species of the *Dysosmia* group, perhaps *P. foetida*.

This new species is named for Dr. I. Urban, the eminent student of the flora of the West Indies, whose assistance to me at Berlin is highly appreciated.

Passiflora mesadenia Killip, sp. nov. •

Stem subquadrangular, striate, pilosulous; stipules subreniform, 1.5 to 2 cm. long, 0.5 to 0.8 cm. wide, aristate, glandular-dentate near base; petioles up to 2 cm. long, 2 or 3-glandular at middle, the glands short-stipitate, about 2 mm. long and 1 mm. in diameter; leaves 4 to 6 cm. long, 6 to 8 cm. wide, 3-lobed to middle (lobes acute, the middle lobe oblong-lanceolate, the lateral lobes ovate-lanceolate), subauriculate at base (basal lobes slightly overlapping), shallowly and irregularly dentate-serrate, 5-nerved, reticulate-veined (nerves and veins impressed above), subcoriaceous, dark green and glabrous above, paler and pilosulous on the nerves and veins beneath; peduncles solitary, up to 5 cm. long, subquadrangular, stout; bracts 4 to 5 cm. long, acute, united about half their length, glabrous; flower-tube cylindrical, 7 to 8 cm. long, about 1 cm. in diameter, pink without, glabrous; sepals oblong, about 4 cm. long, 1 cm. wide, obtuse, concave toward apex, short-awned on outside just below apex, pink without, white within; petals oblong-spatulate, as long as the sepals, about 1.5 cm. wide, obtuse, white; corona reduced to a row of small thick tubercles about 1 mm. long; operculum 5 to 6 mm. long, the margin recurved, denticulate; limen closely surrounding base of gynophore, lobulate; ovary narrowly ovoid, glabrous, pruinose.

Type in the herbarium of the Field Museum of Natural History, no. 536001, collected at Villcabamba, hacienda on the Río Chinchao, Peru, altitude about 1800 meters, July 17-26, 1923, by J. F. Macbride (no. 4960).

This species differs from *P. macrochlamys*, a near relative, in the conspicuous petiolar glands, borne near the middle of the petiole, auriculate leaf-bases, much smaller stipules, and longer flower tubes.

Passiflora roseorum Killip, sp. nov.

Stem angular, striate, densely tomentulous; stipules oblong, 1.5 cm. long, 8 to 9 mm. wide, oblique and subcordate at base, fimbriate-dentate, the teeth 2 to 3 mm. long, not gland-tipped; petioles up to 1.5 cm. long, bearing 2 or 3 rudimentary glands, or glandless; leaves 3.5 to 4 cm. long, 4.5 to 5 cm. wide, 3-lobed (lobes triangular-ovate or suborbicular, 1.5 to 2 cm. wide, rounded at apex, the angle at sinus between middle and lateral lobes about 90°), truncate at base, 5-nerved, glandular-serrulate, thick-coriaceous, glabrous and sublustrous above, densely brown-tomentose beneath, the nerves and veins impressed above; peduncles up to 5 cm. long; bracts 4 cm. long, united two-thirds their length (free portions ovate-lanceolate, about 1.5 cm. wide, abruptly acuminate), puberulent without, tomentose within; flowers violet, the tube cylindrical, 7 to 8 cm. long; sepals oblong, about 3 cm. long, 1.5 cm. wide, obtuse, minutely awned on outside just below apex; petals subequaling the sepals, obtuse; corona reduced to a deeply crenulate ring, scarcely tuberculate; operculum dependent, the margin recurved, subentire; gynophore slender, not exerted; ovary obovoid, glabrous.

Type in the U. S. National Herbarium, no. 1,022,682, collected in the vicinity of Zaragura, Ecuador, September 28, 1918, by J. N. Rose, A. Pachano, and George Rose (no. 23154).

This may be a hybrid between *P. jamesoni* and *P. ecuadorica*, the fringed stipules suggesting the former and the small, shallowly lobed leaves the latter. Unlike either of these the under surfaces of the leaves and the involucre are covered with a dense brownish tomentum.

***Passiflora anastomosans* (Lam.) Killip.**

Tacsonia anastomosans Lam. in DC. Prodr. 3: 335. 1828.

***Passiflora acutissima* Killip.**

Tacsonia lanceolata Mast. in Mart. Fl. Bras. 13¹: 536. 1872.

Passiflora lanceolata Harms, Bot. Jahrb. Engler 18: Beibl. 46: 11. 1894, not *Passiflora lanceolata* G. Don (1834).

***Passiflora matthewsii* (Mast.) Killip.**

Tacsonia matthewsii Mast. in Mart. Fl. Bras. 13¹: 539. 1872.

***Passiflora urceolata* (Mast.) Killip.**

Tacsonia urceolata Mast. in Mart. Fl. Bras. 13¹: 539. 1872.

***Passiflora paulensis* Killip, sp. nov.**

Plant glabrous throughout; stem terete, striate; stipules subreniform, 0.7 to 1.5 cm. long, 2 to 2.5 cm. wide, cuspidate, crenulate to subentire, membranous; petioles slender, up to 2 cm. long, 2 to 4-glandular, the glands stipitate, up to 1 mm. long; leaves ovate-oblong or oblong-lanceolate, 5 to 7 cm. long, 3 to 4 cm. wide, acute, rounded and subpeltate at base, entire, subtriply- or quintuplinerved, arcuate-veined, membranous; peduncles slender, up to 3.5 cm. long; bracts cordate-ovate, 2 to 2.5 cm. long, 1 to 1.5 cm. wide, acute, conspicuously reticulate-veined, chartaceous, pinkish when dry; flower-tube broadly campanulate, ventricose at base; sepals oblong, about 2.5 cm. long, 1 cm. wide, obtuse, cucullate; petals oblong-spatulate, slightly longer than sepals, obtuse; corona filaments in 5 series, the two outer 2 to 2.5 cm. long, terete, fasciate, those of the two succeeding series minute, about 1.5 mm. long, the inner series about 2 mm. distant, membranous at base, filamentose on margin, the filaments 2 mm. long; operculum membranous, horizontally spreading, serrulate at margin; limen cylindrical, 7 mm. high, the lower two-thirds adnate to gynophore, the upper third flaring outward; ovary subglobose, glabrous.

Type in the herbarium of the Muséum d'Histoire Naturelle, Paris, collected at Apiahy, São Paulo, Brazil, in 1883, by Puiggari.

Although numerous species have been described in this group of the subgenus *Granadilla* with entire leaves and foliaceous stipules and bracts, none of these descriptions apparently apply to this plant. The material examined at Berlin was distributed as *P. subrotunda*, which appears to be only a small-leaved form of *P. mucronata*. From *P. mucronata*, *P. paulensis* differs in the shape of the bracts, which are borne close to the flower, more slender petioles, leaves of a much thinner texture, and in the arrangement of the corona.

Passiflora dalechampioides Killip, sp. nov.

Plant glabrous throughout; stipules semi-oblong, 1.5 to 3.5 cm. long, 0.7 to 1.5 cm. wide, acute, mucronulate, rounded at base, oblique, attached laterally near base; petioles 2 to 3.5 cm. long, bearing 6 to 9 short-stipitate glands on dorsal side; leaves trisect to within 2 mm. of base (segments lanceolate or elliptic-lanceolate, 3.5 to 10 cm. long, 1 to 3.5 cm. wide, acuminate, mucronulate, glandular-serrulate in sinuses, often overlapping), cordate at base, 3 or 5-nerved, reticulate-veined, subcoriaceous, sublustrous; peduncles 3.5 to 10 cm. long, articulate just below apex; bracts oblong or oblong-lanceolate, 1 to 1.2 cm. long, 0.5 to 0.6 cm. wide, acute, mucronulate, thin-membranous, glaucous, borne at point of articulation; flowers about 4.5 cm. wide, "greenish blue," the tube short-campanulate; sepals linear-oblong, about 2 cm. long, 0.6 to 0.8 cm. wide, cucullate and short-awned at apex; petals linear, about 1 cm. long, 0.3 cm. wide; corona filaments in 3 series, the outermost filiform, about 7 mm. long, the two inner capillary, 2 to 3 mm. long; operculum membranous, 2 mm. high, denticulate; nectar ring a short membrane; limen tubular, adnate to base of gynophore; ovary ovoid; fruit ovoid, 4 cm. long, 2 cm. wide (probably larger), the exocarp coriaceous; seeds obovate-oblong, about 5 mm. long, 3 mm. wide, reticulate.

Type in the U. S. National Herbarium, no. 943534, collected at Coroico, Yungas, Bolivia, in September, 1894, by M. Bang (no. 2441). Duplicates in the herbarium of the New York Botanical Garden and in the Gray Herbarium.

This collection was identified by Masters as *P. trisulca*. The leaves bear a general resemblance to that species, though they are much more deeply lobed, and the petiolar glands are more numerous. The flowers are smaller, the outer corona filaments filiform, not liguliform, and the operculum merely denticulate. The shape of the leaves suggests rather *P. weberbaueri*, a wholly different species of the subgenus *Granadillastrum*.

Passiflora rubrotincta Killip, sp. nov.

Plant glabrous throughout; stem terete, wiry, drying yellowish; stipules subreniform, 1.5 to 2 cm. long, 0.5 to 0.8 cm. wide, minutely mucronulate at one end, rounded at other, remotely crenulate or subentire, coriaceous; petioles about 2 cm. long, glandless; leaves 4.5 to 8 cm. long and wide, angulately 3-lobed (middle lobe ovate-deltoid, 3 to 4 cm. long, 4 to 5 cm. wide at base, obtusish, the lateral lobes less than half as long), distinctly peltate, truncate at lower margin, 5-nerved, coriaceous, dark green and lustrous above, dull and reddish beneath; peduncles 4 to 7 cm. long, slender, articulate about 2 mm. from apex; bracts cordate-ovate, about 1 cm. long, 0.7 cm. wide, acute, mucronulate, reddish; flowers 4 to 5 cm. wide, the tube campanulate; sepals oblong-lanceolate, about 5 mm. wide at base, coriaceous, dorsally awned just below apex, the awn foliaceous, about 1 cm. long; petals linear-spatulate, slightly shorter and narrower than the sepals; corona filaments filiform, in 3 (or 4?) series, the inner barely 2.5 mm. long; operculum membranous and non-plicate below, filamentose above, the filaments about 3 mm. long; limen tubular, closely surrounding base of gynophore; ovary ovoid.

Type in the herbarium of the New York Botanical Garden, collected in Bolivia, the precise locality not stated, by M. Bang (without number).

The angularly lobed, distinctly peltate leaves at once differentiate this species from relatives of the subgenus *Granadilla*.

Passiflora tenuifila Killip, sp. nov.

Plant glabrous throughout; stem terete or the younger parts subangular; stipules semi-oblong or subreniform, 1 to 4 cm. long, 0.5 to 2 cm. wide, obtuse or acutish, mucronulate at apex, rounded at base, subentire, glaucescent beneath; petioles 2 to 5 cm. long (lower up to 8 cm.), 2 to 5-glandular, the glands up to 2 mm. long, thickened at base, scattered or subopposite; leaves 3.5 to 8 cm. along midnerve, 3 to 7 cm. along lateral nerves, 5 to 12 cm. between apices of lateral lobes, 3-lobed two-thirds to three-quarters their length (lobes oblong or obovate-oblong, 1 to 3.5 cm. wide, rounded or obtuse, mucronulate at base, glandular-serrulate in the acutish sinuses, the middle lobe narrowed at base), cordate, 5-nerved, subpeltate, membranous, glaucescent beneath; peduncles 3 to 8 cm. long, slender, articulate less than 2 mm. from apex; bracts cordate-ovate, 1 to 1.5 cm. long, 0.6 to 1.2 cm. wide, abruptly acute and mucronate at apex, glandular-serrulate at base, glaucous, borne at point of articulation, persistent; flowers up to 3.5 cm. wide, the tube patelliform, introrse at base; sepals narrowly oblong, 5 to 7 mm. wide, obtuse, carinate, bright green along the keel, white at margin, the keel terminating in a foliaceous awn 4 to 6 mm. long; petals about two-thirds as long and as broad as sepals, obtuse, white; corona filaments very slender, almost capillary, in 4 series, the outer two 5 to 7 mm. long, radiate, the inner two 1.5 to 2.5 mm. long; operculum membranous, 1 mm. high, slightly plicate at margin, filamentose, the filaments attached dorsally just below margin, 1 to 1.5 mm. long; nectar ring a low fleshy ridge; limen shallowly cupuliform, loosely surrounding base of gynophore; ovary ovoid, glaucescent.

Type in the U. S. National Herbarium, no. 1,232,864, collected at Marechal Mallet, Paraná, Brazil, about 800 meters altitude, January 2, 1904, by P. Dusén. A duplicate of this collection is in the Gray Herbarium.

BRAZIL: Ijuhy, Rio Grande do Sul, *Lindman* 1363 (U. S. N. M.).

PARAGUAY: Along Upper Paraná River, *Fiebrig* 6230 (U. S. N. M., Gray).

This material was distributed as *P. coerulea* and *P. tucumanensis*. The species is not even closely related to *P. coerulea*, differing greatly in leaf shape and flower structure. Though belonging to the complex group of granadillas with 3-lobed leaves and foliaceous stipules, it is at once distinguished by small flowers with very short, almost capillary corona rays. *Passiflora tucumanensis*, *P. naviculata*, and *P. giberti* in general appearance closely resemble *P. tenuifila*, but, in addition to larger flowers with coarser corona rays, the first two have glandless petioles, and the third has a distinctly plicate operculum.

Passiflora phaeocaula Killip, sp. nov.

Plant scandent, the tendrils well-developed; stem subquadrangular, slender, dark purple; stipules setaceous, soon deciduous; petioles 5 to 8 mm. long, glandless or obscurely glandular at base of leaf, minutely puberulent; leaves oval, 3.5 to 5 cm. long, 2 to 2.5 cm. wide, rounded and slightly emarginate at apex, rounded at base, entire, penninerved (lateral nerves 5 to 7 to a side), reticulate-veined (nerves and veins elevated and conspicuous on

both surfaces), thick-coriaceous, lustrous and glabrous above, dull and minutely puberulent beneath; peduncles solitary in axils, 1-flowered, 4 to 6 mm. long, shorter than the adjacent petiole; bracts soon deciduous; flower tube funnel-shaped, about 8 mm. long, 5 mm. wide at throat, dark-maculate within; sepals narrowly oblong, about 2 cm. long, 0.6 cm. wide, obtuse, ecoriuncate; petals similar and subequal to sepals; corona filaments in 2 series, the outer about 1 cm. long, subdolabriform, linear below, dilated to width of about 1.5 mm. above middle, attenuate at tip, the inner filiform, about 1.5 mm. long, shallowly bifid; operculum borne in lower third of tube, erect, 4 mm. long, filamentose nearly to base; ovary ovoid, puberulent.

Type in the herbarium of the New York Botanical Garden, collected along the Upper Rio Negro, Brazil, in 1907 or 1908, by Weiss and Schmidt.

Among species of the section *Pseudoastrophea* this is most readily recognized by the small, very thick leaves with a conspicuous much-elevated reticulate venation. The peduncles are shorter than the petioles, in this respect resembling only *P. candida*. In both series the corona filaments are much fewer than in *P. candida*, *P. haematostigma*, and other relatives, and the outer filaments are essentially entire at the margin of the dilated portion.

PROCEEDINGS OF THE ACADEMY AND AFFILIATED SOCIETIES

ENTOMOLOGICAL SOCIETY

392ND MEETING

The 392nd regular meeting was held April 7, 1927, in the U. S. Department of Agriculture Motion Picture Laboratory, 1363 C. Street S. W. President J. A. HYSLOP presided. There were present 23 members and 15 visitors.

Mr. FLOYD F. SMITH, of Willow Grove, Penn., was elected to membership.

Program: W. H. LARRIMER: *The control campaign against the European corn borer.* (Illustrated by two motion picture films of the Department entitled "The corn borer and what to do about it," and "Corn and the borer,"—and also by several lantern slides dealing with the various phases of the corn borer activities, such as copies of the original \$10,000,000 authorization and appropriation bills, organization charts for the campaign, portraits of some of the executive personnel.) In addition to data in explanation of the film and the slides the speaker gave a brief outline of the events of the past few months concerning the corn-borer clean-up campaign, with not only emphasis on the scope and magnitude of the enterprise, but also with emphasis on its experimental character, as being solely an effort to check the spread of the pest, and with no attempt at absolute extermination of it, the experimental character of the campaign being clearly realized and understood not only by the President, the Director of the Bureau of The Budget, and the Congressional Committee, but also by the International Corn-Borer Committee, some of the members of which were most active in obtaining the ten million dollar appropriation.

A. C. BAKER: *The citrus white fly in California.* The speaker gave a brief account of the campaign against this pest and his visit to that State in